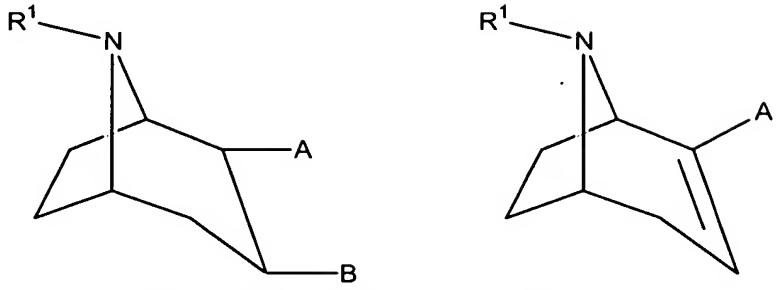
**WHAT IS CLAIMED IS:**

1. A compound of the following formulae:




wherein A and B are independently in the $\alpha$- or $\beta$ configuration; and

wherein A is -CO-O-$CR^2$-$(CR^3)_n$-X;

B is selected from the group consisting of –O-CO-$R^4$ and –O-$R^5$;

$R^1$ is selected from the group consisting of H, aryl, arylalkyl, branched or unbranched alkyl, alkenyl and alkynyl, -CO-alkyl, -CO-aryl, and –CO-arylalkyl;

$R^2$ is selected from the group consisting of H and branched or unbranched alkyl, alkenyl and alkynyl;

each $R^3$ may be the same or different and is independently selected from the group consisting of H and branched or unbranched alkyl, alkenyl and alkynyl

$R^4$ is selected from the group consisting of H, branched or unbranched alkyl, alkenyl and alkynyl, aryl and arylalkyl;

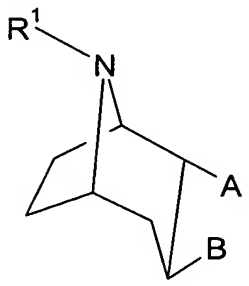
$R^5$ is selected from the group consisting of H, branched or unbranched alkyl, alkenyl and alkynyl, aryl and arylalkyl;

X is selected from the group consisting of OH, SH, amino and halogen;

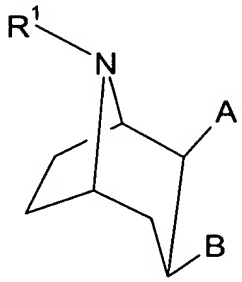
n is an integer selected from 0, 1, 2, 3, 4, 5 and 6;

and pharmaceutically acceptable esters and salts thereof.

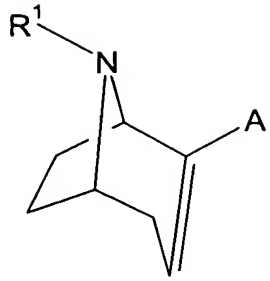
2. A compound of formula (I), (II) or (III):




(I)




(II)




(III)

wherein A is -CO-O-$CR^2$-$(CR^3)_n$-X;

B is selected from the group consisting of –O-CO-$R^4$ and –O-$R^5$;

$R^1$ is selected from the group consisting of H, aryl, arylalkyl, branched or unbranched alkyl, alkenyl and alkynyl, -CO-alkyl, -CO-aryl, and –CO-arylalkyl;

$R^2$ is selected from the group consisting of H and branched or unbranched alkyl, alkenyl and alkynyl;

each $R^3$ may be the same or different and is independently selected from the group consisting of H and branched or unbranched alkyl, alkenyl and alkynyl

$R^4$ is selected from the group consisting of H, branched or unbranched alkyl, alkenyl and alkynyl, aryl and arylalkyl;

$R^5$ is selected from the group consisting of H, branched or unbranched alkyl, alkenyl and alkynyl, aryl and arylalkyl;

X is selected from the group consisting of OH, SH, amino and halogen;

n is an integer selected from 0, 1, 2, 3, 4, 5 and 6;

and pharmaceutically acceptable esters and salts thereof.

3. The compound according to claim 2, wherein X is OH.

4. The compound according to claim 3, wherein the segment $-O-CR^2-(CR^3)_n-X$ is a symmetrical primary alkyl diol.

5. The compound according to claim 4, wherein n is 0, 1, 2 or 3.

6. The compound according to claim 5, wherein n is 2.

7. The compound according to claim 6, wherein $R^2$ and $R^3$ are H.

8. A method for producing a primary diol tropane ester, comprising the steps of

(a) contacting an appropriately substituted tropane and 1,1'-carbonyldiimidazole to produce an activated tropane ester;

(b) contacting the activated tropane ester with an excess of primary diol to form a reaction mixture; and

(c) maintaining the reaction mixture at a temperature and for a sufficient time for the activated tropane ester to react with the primary diol to form the corresponding primary diol tropane ester.

9. The method according to claim 8, wherein the primary diol is 1,3-propanediol.

10. The method according to claim 9, wherein the tropane is ecgonine, benzoylecgonine or ecgonidine.

11. The method according to claim 10, wherein the reaction of step (b) is carried out in dry DMF.

12. The method according to claim 11, wherein the excess of primary diol is at least about 2 equivalents to 1 equivalent of tropane.

13. The method according to claim 8, wherein the reaction of step (b) is carried out under an inert gas.

14. The method according to claim 13, wherein the inert gas is nitrogen.

15. The method according to claim 8, wherein reaction of step (b) is carried out in methylene chloride.

16. The method according to claim 8, further comprising the step of isolating the primary diol tropane ester from the reaction mixture.

17. The method according to claim 16, wherein the isolation is performed by extraction.

18. The method according to claim 17, further comprising the step of purifying the isolated primary diol tropane ester.

19. The method according to claim 18, wherein the purification is performed by column chromatography.

20. A pharmaceutical composition comprising a compound according to claim 2 and a pharmaceutically acceptable carrier or adjuvant.

21. The pharmaceutical composition according to claim 20, wherein the pharmaceutically acceptable carrier or adjuvant is propylene glycol.

22. The pharmaceutical composition according to claim 21, comprising at least one additional ingredient selected from the group consisting of methotrexate, taxol, 5-fluorouracil, cis-platinum, cortisone, nitrogen mustards, thiotepa and

nitrosoureas, non-steroidal anti-inflammatory agents, penicillamine, methotrexate, cortisone and gold salts, amantadine, L-DOPA and CNS-anticholinergics.

23. The pharmaceutical composition according to claim 22, wherein the composition is in an administering dosage form selected from the group consisting of a tablet, capsule, caplet, liquid, solution, suspension, emulsion, lozenges, syrup, reconstitutable powder, granule, suppository and transdermal patch.

24. The pharmaceutical composition according to claim 23, wherein the administering dosage form is a topical solution or a transdermal patch.

25. A method for treating, preventing or alleviating the symptoms of immunoregulatory disorders, neuromuscular disorders, joint disorders, connective tissue disorders, circulatory disorders or pain, comprising the step of administering to a mammal, including a human, a pharmaceutically effective amount of the pharmaceutical composition according to claim 20.

26. The method according to claim 25, wherein the pharmaceutical composition is administered intravenously, intramuscularly, subcutaneously, intra-articularly, intrasynovially, intrathecally, periostally, intratumorally, peritumorally, intralesionally, perilesionally, by infusion, sublingually, buccally, transdermally, orally, topically or by inhalation.

27. The method according to claim 26, wherein the pharmaceutical composition is administered transdermally, topically or by inhalation.

28. The method according to claim 25, wherein the disorder is selected from the group consisting of pain, inflammation, autoimmune diseases, allergies, poison ivy, poison oak, contact dermatitis, amyotrophic lateral sclerosis, multiple sclerosis, skeletal muscle trauma, spasm post-stroke, loss of sensory acuity, weakness, cerebral edema, Reiter's syndrome, polymyositis, Parkinson's

disease, Huntington's disease, angina, acute back strain, frozen shoulder, restricted range of motion, post-fracture contracture, arthritis, bursitis, ankylosing spondylitis, rheumatoid vasculitis, joint rigidity, osteoarthritis, mixed arthritis, psoriatic arthritis, gout, inflammatory gout, juvenile rheumatoid arthritis, systemic lupus, Burger's disease, periarteritis nodosum, proliferative diseases, scleroderma, collagen disorders, angina pectoris, myocardial ischemia, gangrene and diabetes.

29. The method according to claim 28, wherein the disorder is pain, inflammation, Parkinson's disease, acute back strain, restricted range of motion, arthritis, bursitis, ankylosing spondylitis, Burger's disease and myocardial ischemia.